

Serial No. 10/643,669
Response date June 15, 2006
Reply to Office Action of March 15, 2006

REMARKS

Status of claims

Applicants thank the Examiner for the consideration given to the present application. Claims 1-50 were pending in the present application. Claims 1, 5-7, 19, 21-22, 29, and 31 have been amended to correct some informalities. Support for the amendments is found in the specification and figures. Claim 2 has been canceled without prejudice and claims 37-50 are withdrawn from consideration. As a result of this amendment, claims 1 and 3-36 are pending. No new matter has been added to the claims. Reexamination and reconsideration are requested in light of the accompanying amendments and remarks.

Election/Restrictions

The claims have been restricted to one of the following inventions:

- I. Claims 1-36, drawn to a water filter device, classified in class 210, subclass 110.
- II. Claims 37-43, drawn to a method of treating low-pressure untreated drinking water, classified in class 210, subclass 767.
- III. Claims 44-50, drawn to a method of incorporating a modular water filter device, classified in class 210, subclass 282.

Applicants, by this response, affirm the provisional election made with traverse of Group I, claims 1-36 by Richard Alexander during a telephone conversation with the Examiner by making an election with traverse of Group I, claims 1-36. Since the limitations of independent claim 1, 19, and 29 are found within the independent method claims 37 and 44 and dependent claims 38-43 and 45-50 depend from claims 37 or 44, Applicants submit that the burden on the Examiner would be minimal and thus respectfully traverse the restriction requirement. Applicants request that upon the allowance of claims 1-36 that claims 37-50 be rejoined. However, to expedite prosecution of the present application on its merits, Applicants have withdrawn claims 37-50 without prejudice as being drawn to a non-elected invention.

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Claim Objections

Claims 1, 5-7, 19, 21-22, 29, and 31 have been objected to because of the following informalities: abbreviations F-VLR and F-BLR should be fully written out. Accordingly, Applicants have amended claims 1, 5-7, 19, 21-22, 29, and 31 to correct the informalities and thus respectfully request the objection to such claims be withdrawn.

Rejections Under 35 USC §103

Claims 1-3, 5-7, 12-14, 16-17, 19-22, and 26-27 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Clack (US 4,997,553) in view of Birdsong et al. (US 5,131,277) and Koslow (US 6,630,016). Claim 4 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow and Birdsong et al. as applied to claim 1 above, and further in view of Sipos et al. (US 5,371,221). Claim 8 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow and Birdsong et al. as applied to claim 1 above, and further in view of Baerg et al. (US 3,670,892). Claims 9-10 and 24 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow and Birdsong et al. as applied to claims 1 and 19 above, and further in view of Deines et al. (US 4,147,631) and Renn (US 3,268,444). Claims 11 and 25 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow and Birdsong et al. as applied to claims 1 and 19 above, and further in view of Deines et al. and Scavuzzo et al. (US 3,333,703). Claim 15 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow and Birdsong et al. as applied to claim 1 above, and further in view of Kuh et al. (US 4,681,677). Claim 18 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow and Birdsong et al. as applied to claim 1 above, and further in view of Cranshaw (US 6,117,319). Claim 23 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow and Birdsong et al. as applied to claim 19 above, and further in view of Coates et al. (US 5,707,518). Claim 28 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow and Birdsong et al. as applied to claim 19 above, and further in view of Wadsworth et al. (US 6,123,837).

Claims 29-31 and 35-36 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow, Birdsong et al., Deines et al. and Renn. Claim 33 has been

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rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow, Birdsong et al., Deines et al. and Renn as applied to claim 29 above, and further in view of Scavuzzo et al. Claims 32 and 34 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow, Birdsong et al., Deines et al. and Renn as applied to claim 29 above, and further in view of Coates et al.

Applicants respectfully traverse these rejections and respectfully submit that the burden of establishing a prima facie case of obviousness under §103 has not met. *MPEP* §2145. In order to establish a prima facie case of obviousness under §103, the Examiner has the burden of showing, by reasoning or evidence, that: 1) there is some suggestion or motivation, either in the references themselves or in the knowledge available in the art, to modify that reference's teachings; 2) there is a reasonable expectation on the part of one of ordinary skill in the art that the modification or combination has a reasonable expectation of success; and 3) the prior art references (or references when combined) teach or suggest all the claim limitations. *MPEP* §2145.

Applicants' independent claims 1, 19, and 29 recite a water filter device for treating untreated drinking water comprising, *inter alia*, a water filter comprising **mesoporous** activated carbon filter particles and a **Filter Bacteria Log Removal (F-BLR)** of **greater than about 2 logs**. Applicants' specification defines "mesoporous activated carbon filter particles" as activated carbon filter particles wherein the sum of the mesopore and macropore volumes may be greater than 0.12 mL/g, and "microporous activated carbon filter particles" as activated carbon filter particles wherein the sum of the mesopore and macropore volumes may be less than 0.12 mL/g. In addition, Applicants' specification further defines "mesopore" as an intra-particle pore having a width or diameter between 2 nm and 50 nm, and "macropore" as an intra-particle pore having a width or diameter greater than 50 nm.

Applicants respectfully submit that none of the references, singularly or in combination, teach Applicants' claimed filter comprising mesoporous activated carbon filter particles and a F-BLR of greater than 2 logs. The Examiner acknowledges that Clack does not teach the mesoporous activated carbon filter particles and the F-BLR as recited in Applicants' claims. However, she asserts that Koslow teaches a water filter having mesoporous activated carbon

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particles (Col. 2, lines 1-14) and a F-BLR of greater than about 2 logs (Koslow's Tables I and II). Applicants respectfully disagree with this assertion.

In column 2, lines 1-14, Koslow teaches providing active particles having an **average particle size** of about 0.1 microns to about 5,000 microns and forming the treated active particles into a **microporous** structure having a **mean flow path** (between the filter particles) of less than about 2 microns. (col. 2, lines 1-14; see the Title). Applicants submit that Koslow's teaching of the **average particle size** refers to the particle size itself and not the claimed **intra-particle mesoporous pore volume** as recited in claims 1, 19, and 29. As set forth above, the claim term "mesoporous activated carbon particles" has a clearly defined meaning of activated carbon particles with a sum of **mesopore** (intra-particle pore volume) and **macropore** (intra-particle pore volume) **volumes of greater than 0.12 mL/g**. Moreover, Koslow's teaching of mean flow path is directed to the spacing between the particles, i.e., not the volume of intra-particle pores. As such, Koslow's **microporous** structure cannot, and does not, teach or suggest Applicants' claimed filter comprising **mesoporous** activated carbon filter particles, which are defined as having a sum of mesopore and macropore volume of greater than 0.12 mL/g.

In addition, Applicants respectfully submit that Koslow teaches microporous filter particles comprising a **microbiological interception enhancing agent** comprising a **cationic material** that is first coated onto the activated carbon particles and then a **biologically active metal** (e.g., silver) is precipitated onto the cationic material (col. 1, lines 52-60) in order to achieve its efficacy. In contrast, Applicants' invention requires no intermediate cationic polymer or biologically active metal to achieve its claimed F-BLR value of greater than 2 logs. In other words, Applicants' claimed filter requires no additional aids as taught by Koslow. Therefore, Applicants respectfully submit that Koslow does not teach or suggest, explicitly or inherently, a filter comprising mesoporous activated carbon filter particles (as defined), wherein the mesoporous filter has a **Filter Bacteria Log Removal (F-BLR)** of greater than about 2 logs as recited by Applicants' independent claims 1, 19, and 29.

Moreover, none of the other applied references (Birdsong et al., Sipos et al., Baerg et al., Deines et al., Renn, Scavuzzo et al., Kuh et al., Cranshaw, Coates et al., and Wadsworth et al.) teach or suggest, singularly or in combination, a filter comprising mesoporous activated carbon filter particles and a F-BLR of greater than about 2 logs. Thus, neither Koslow nor any of the

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other references, singularly or in combination, teach or suggest a filter comprising **mesoporous** activated carbon filter particles (as defined) and a **Filter Bacteria Log Removal (F-BLR)** of greater than about 2 logs as recited by Applicants' independent claims 1, 19, and 29.

Accordingly, Applicants respectfully request the rejection of claims 1, 19, and 29 under 35 U.S.C. §103 be withdrawn. As claims 3-18, 20-28, and 30-36 depend from claims 1, 19, or 29, Applicants request the rejection of these claims under 35 U.S.C. §103 be withdrawn as well.

CONCLUSION

Applicants respectfully submit that the present application is in condition for allowance. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response. Otherwise, early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,
DINSMORE & SHOHL

By 
Paul M. Ulrich
Registration No. 46,404

One Dayton Centre
One South Main Street, Suite 1300
Dayton, Ohio 45402
Telephone: (937) 449-6407
Facsimile: (937) 449-6405